

CHAMBERS'S JOURNAL

OF
POPULAR

LITERATURE, SCIENCE, AND ART

Fourth Series

CONDUCTED BY WILLIAM AND ROBERT CHAMBERS.

No. 78.

SATURDAY, JUNE 24, 1865.

PRICE 1½d.

A STAR FOR A NIGHT.

MR HORACE PERCY PLANTAGENET, sometime of the theatres-royal all over the country, and once for a very limited time, and in a far from prominent capacity, of the Theatre-Royal in the Hay-market, had been out of professional employment, and therefore out of elbows, for a series of years. True, he lived in the Past. His mind and voice (and he was considered inimitable for anecdote among the company at the *Garrick's Head*) were alike occupied with ancient histrionic events; the days when Kean the elder played the Royal Dane, and he (Plantagenet) played the Ghost. But the Past could not furnish him with bread and meat, nor even a red-herring for breakfast. Drink to a small extent it would and did produce him, for it was only reasonable that the landlord of the above-mentioned place of entertainment should supply liquor gratuitously to a theatrical veteran whose reminiscences were attractive to his parlour company. But even this last source of revenue, if it could be called such, had shewn symptoms of abatement. A new generation was springing up, to whom the form of the great Kemble was as the shadow of a shade; who stared with wild eyes, and smiled with alien lips, if he discoursed of Jack Banister. Jack Sprat, they had heard of, and also of Jack Robinson, but of the great comedian junior to both those worthies, the very name had never reached their ears. It had been even coarsely suggested to poor Plantagenet, by the proprietor of the *Garrick's Head*, that he had better come down a round or two in the ladder of Thespian worthies, and become anecdotal upon the more modern stars; as though any man (worthy of the name) could transfer his allegiance from Kemble to Kean junior, from Banister to Buckstone, at the command of a tapster. Or, if he could, were anecdotes such as Plantagenet's—lifelike, idiosyncratic—matters that would suit any character of whom he chose to tell them, like the paste-board head which among children is made to fit forty pair of shoulders, here a Grand Turk's, and there a respectable Quaker's; now the Pope's, and

now the Rev. Mr Spurgeon's. As for procuring any engagement upon the boards, however humble, the time had gone by for that some twenty years ago. Not, indeed, that he had not the genius for it (poor Plantagenet never gave into that delusion, although it had been so general), but simply that he had been out of harness for so long that he would have been looked upon with as great suspicion as an unbroken colt—a Thespian novice, subject to stage-fright. No, he could not venture even to make any such application.

Poverty he had long been accustomed to, but Destitution herself was now approaching. Already he felt her icy touch, and shuddered. Unhappy old man, superfluous lagging on the stage of Life, there was nothing for him but to arrange his garments decently about him, like Mr Young in *Julius Caesar*, and so die. It behoved him, too, to be quick about it, while garments were yet left to him sufficient for that mournful purpose. Mr Horace Percy Plantagenet was as poor as poor could be.

It was at this spring-tide ebb of his fortunes that a letter was placed in his hands as he repaired to the *Garrick's Head* one evening, superscribed *Immediate*, and directed to Mr George Cleon. In common with the rest of his acquaintance, I have almost forgotten to say, by the by, that the real name of this fading and falling dramatic star *was* Cleon, and not that more aristocratic title under which he had always moved in the theatrical firmament. In process of years, the *alias* had grown to be so much more familiar than the original, even to himself, that he gave the letter back into the landlord's hand with a sigh. 'There is some mistake,' said he; 'nobody ever writes to me.'

'Pooh, nonsense, man!' returned the other, who was, nevertheless, burning with curiosity to know who was writing to the friendless and failing old man: 'there's H. P. P. put in the corner, evidently to let you know that it is meant for you. Come, open it: perhaps it's a fortune; perhaps it's an engagement for the season at "the Lane."'

The ancient actor, by no means joining in the other's misplaced merriment, did as he was bid. Not having his spectacles upon his nose, and the

writing being very cramped, the landlord, peering over his shoulder, was so good as to read the contents of the communication aloud, in order to save time :

THEATRE-ROYAL, Maddington-on-Sea.

SIR—If you will come down here on Friday next for one night only, and play in my Theatre, I will give you ten pounds, and pay all expenses. Choose your own play and part from the accompanying list.—Yours truly, GEORGE FOOTLITES.

'What do you think of *that*, my man?' cried the landlord, slapping his friend (and debtor) upon the back.

'I think it's a cruel hoax to play upon one like me,' returned the actor.

'No, no; it's no hoax, my man; I'll go bail for that, and stand all losses, if it be so. They're a rough lot, some of 'em, in my parlour there, but there's none would do such a dirty trick as that. It's clear that Footlites wants you; though why on earth— Well, well, I don't mean anything rude, but it is odd, isn't it? Your *name* has made noise enough, true: "Cleon and universal brotherhood!" "Cleon, and down with dram-drinking!" "Cleon and moral liberty!" a fellow, who, if he had his way, would shut up every respectable house, like the *Garrick's Head*, in England. But I can't imagine how Footlites came to know it was *your* name. You never agitated for the suppression of skittle-alleys and bagatelle-tables, and the abolition of cakes and ale! There must, as you observe, be some mistake.'

'If the letter is genuine,' said Plantagenet, endeavouring to draw himself up, but making a very distant approach to haughtiness indeed, 'I see nothing in the contents so very surprising. Doubtless, Mr Footlites—one of the most respectable men in my profession—has been informed that I am at present out of an engagement, and remembering the time when the great Kean and I played together at Glasgow'—

'Pooh, pooh!' interrupted the landlord; 'Footlites was not born at that time. If this letter had been headed Temperance Hall instead of Theatre-royal, I should have said: "It's not meant for you, it's meant for the orator chap, the popular spouter; but then he wouldn't be seen within the walls of a theatre. It's certainly very odd that he don't address you by the name you always went by on the boards. However, as I said, I'll stand all losses, for old acquaintance' sake; and if you get the tin, you'll settle that little bill with me, Percy, like an honest fellow. So, now, let us look over the list of plays.'

And here the landlord's advice was of real utility; for whereas the old actor hankered after leading parts in famous plays—such as *Hamlet*, *Cardinal Wolsey*, and *King Lear*, which he was about as fit to sustain as the orang-outang in the Regent's Park—his guide, philosopher, and creditor, recommended much less ambitious rôles; and since poor Plantagenet looked to him for the means of travel—the railway fare down to Maddington—he was fortunately obliged to give in, and bring his aspirations down to a practicable level.

Don Pedro, in the *Maid of Madrid*, is not what is called a leading part, that nobleman having to make only some half-dozen observations during the entire drama—but it was quite 'leading' enough for a gentleman who had not trod the stage for a quarter of a century, and whose memory,

except for anecdote, had long been hopelessly obfuscated by indulgence in ardent spirits. A series of private rehearsals before an audience of one (the landlord) terminated with the expression of a fervent hope, on the part of the latter, that Mr Footlites kept a prompter who knew his business; and upon the Friday morning in question, Mr George Cleon found himself seated, without his *alias*, in the express-train for Maddington-on-Sea.

Such creatures are we of circumstances, so easily depressed and elated, that the broken, penniless stage-hack of a week ago could scarcely have been recognised in the smiling player about to fulfil an important engagement at one of the most celebrated of our provincial theatres. True, it was specified as being only for one night; but if Don Pedro should acquit himself as he felt certain it lay in him to do, why should not these ten pounds become a weekly stipend of sixty pounds, or even fifty pounds (in consideration of the thing being a permanency); which, calculated by the theatrical calendar, would be about twelve hundred *per annum*—surely a very tolerable income for a man of small needs. In such a desirable termination of the matter, not only would he pay off such vulgar liabilities as that incurred with the landlord of the *Garrick's Head*, but never again cultivate his society. He (H. P. P.) could not conceal from himself that he had let himself down by such connections already. If it had been possible that such a light as his had remained invisible to the playgoing world for ever, he would have had nobody but himself to blame for it, who had suffered it to be obscured with such base surroundings; but now that his talents had received this public recognition, he would be more particular in his company for the future. It was a piece of excessive impudence, by the by, that that man should have only advanced him money sufficient to travel by second class. It would never do to let Mr Footlites know that he came down in that fashion. No; he would certainly charge him first-class fare; for what was a sovereign, one way or the other, in the extraordinary charges to which the manager had already put himself, in order to advertise his coming! Long before he got to Maddington, he saw the neighbouring stations placarded with the great news of his advent:

CLEON IS COMING!

on placards as high as himself, in every colour of the rainbow. It was really very gratifying, not to say intoxicating, to poor Plantagenet. As for Maddington itself, there was not a blank wall which did not shriek out CLEON!!! As the omnibus took him to Mr Footlites' residence, he seemed to be making a sort of triumphal entry into the place, so vocal in his honour was every brick, so gay with the letters of his name was every hoarding. It was like a delicious dream, from which he was almost afraid of waking, like Christopher Sly, to find himself in the parlour of the *Garrick's Head*, retailing anecdotes in exchange for gin and water. It was quite a relief to him to see a genuine billsticker putting up one of these splendid intimations with unmistakable paste and brush:

GEORGE CLEON: THEATRE-ROYAL!

THIS EVENING!!

He thought it might have been added, that he would sustain the rôle of 'Don Pedro, his original character;' but perhaps it was better as it was.

There were a great number of original characters (in the sense that he had never played them before) to be sustained by G. C.

Mr Footlites was not within. On receiving this intelligence, the heart of our hero seemed for a moment to divide, and sink into his shoes. Was it nothing but a dreadful hoax, then, after all? No; Mr Footlites had left a letter, begging him to make himself at home, and to present himself at the theatre at half-past six precisely: a rehearsal, in the case of an actor of his vast experience, would, it was written, be totally unnecessary, even if the part which his modesty had assigned to himself had been of much more consequence than it was. All this was very complimentary, but it was also rather odd. Mr Cleon, however, did as he was bid. As he entered the stage-door of the theatre, he beheld a crowd of would-be spectators of the *Maid of Madrid* filling the entire street in front of the edifice. But pit, gallery, and boxes were already crammed to overflowing. The enthusiasm when he came upon the stage was so tremendous, that he could only act in dumb-show. It was certainly himself, and not the play (and indeed the drama was a stupid one enough), that was the object of the universal 'furor.' In a very few minutes, however, it became but too evident that he was giving the greatest dissatisfaction; and yet he had not omitted a single line of *Don Pedro*, always accompanied with what he conceived to be the most appropriate action. What the deuce did these Maddington people want? What would they have? What was the meaning of those terrible cries of 'Off, off!' and 'Money returned!' With his fingers in his ears, he inquired in vain of the discordant throng what offence he had committed. 'I protest,' cried he, 'I am totally unaware of having deserved such a reception. There is some dreadful mistake somewhere, as sure as my name's Percy Plan—I mean George Cleon.' Here the house rose at him with such an appalling yell, that he quitted the stage, and rushed into the manager's room.

'Your people are all mad,' cried he. 'I have done my best, and yet they are not satisfied.'

'Never mind,' observed Mr Footlites blandly (a very gentlemanlike and imperturbable manager was Footlites); 'so long as I am satisfied, there is nothing to regret. You have played your part to admiration. I have not had such a house for years. Here are three five-pound notes for you, which are surely much better than any explanation. Well, if you must have it, the fact is this: The receipts have been very inconsiderable here for a long time. I heard that Cleon, the public speaker, was coming down to the town-hall here this evening at seven o'clock. I knew that he would be advertised extensively. Why should not those advertisements be made to fill my theatre? Is not one Cleon as good as another, and (as has been before observed) a deal better too? I happened to hear that a dramatic gentleman of the same name—yourself—would be glad of an engagement of however temporary a character. Was it not benevolent in me to invite you? Was it not judicious in you to come? There is nothing more to be said upon either side. When all these people are gone away, supper will be served to you in the green room, as it will not be safe to shew yourself in the street at present. Just as if you had not a perfect right to come and play *Don Pedro*!'

Poor Plantagenet! He never realised his twelve hundred a year, or anything like it; and the shock to his *amour propre* was severe indeed. Still, that one night's engagement has been the making of him. He has not only paid his debts, but acquired a permanent income. Influenced in part, perhaps (like the manager), by benevolent motives, and in part, certainly, by the threat that the manoeuvre above narrated would be repeated wherever it was practicable, Mr George Cleon, the public orator, has settled ten shillings a week upon the decayed actor, his namesake, on the understanding that the latter never comes down to act at provincial theatres on the identical evening that he himself is advertised to address the masses in the town-hall or other public building in the same locality. It is said that he lost more than half his audience by the representation of the *Maid of Madrid* upon the occasion I have described, and that he was even facetiously designated (by those in a position to take such a liberty with so great a man) Don Pedro the Second.

DROPS AND BUBBLES.

WE all believe that we know pretty well what a drop is: that it is a small globular (or rather pear-shaped) modicum of water or some other liquid, uniform in consistence throughout, and engaged in the act of falling from a higher level to a lower. But Professor Guthrie now shews that we have hitherto known very little about the matter. We don't know why some drops are larger than others; whether drops of the same liquid have different sizes at different temperatures; whether drops of different liquids always bear the same relation to each other in size; whether drops falling from a sharp point are larger or smaller than those from blunt surfaces; whether drops falling through one kind of air or gas differ in size from those falling through another. Scientific experimentalists, for a long series of years back, have been acquainted with numerous facts which bore indirectly on some or other of these questions; but the uninitiated public have been contented with knowing that a drop is a drop, too small a quantity to make a fuss about. It now appears, however, from an elaborate series of experiments, that the conditions which determine the size of a drop are really very curious, and are, moreover, suggestive of many useful applications in practice.

Drops of rain are dependent for their size on the quantity of aqueous vapour in the atmosphere at the time and place of formation, on the tranquillity of the air, on the electrical conditions of the air, and on the velocity with which wind may be stirring at the time. These conditions are ever varying, and are beyond our power to regulate. But drops which fall at our will, or under conditions which we can fix, vary in size according to laws which are now for the first time becoming clear and intelligible. Professor Guthrie finds that the size of all drops, rain-drops as well as every other, depends on the cohesive nature of the liquid, the adhesion to the surface from which the drop falls, the shape of that surface, the physical relation of the liquid to the medium through which it falls, and the force of gravitation. Excepting rain, most of the drops with which we are acquainted fall from solid surfaces; and, like it, they fall through air or some æriform fluid. Cocoa-nut oil, made to flow slowly upon

the surface of a small ivory ball, is the source of many of the drops on which Professor Guthrie has experimented; and he finds that the results differ very curiously from those obtained when the solid substance is pyramidal, cylindrical, flat, or pointed. Working at a medium temperature, with his cocoa-nut oil and his little ivory ball, he weighed hundreds of drops in groups of sixty each, and found them all about equal, weighing 0.066279 French grammes each—or, in plainer English, about twenty-three drops to a grain. But here comes a very remarkable question—are the drops the same size whether they succeed each other rapidly or slowly? Most of us would say Yes, if all the other conditions remain the same; but our learned experimentalist says No. He arranged his apparatus (which he calls a *Stalagmometer*, or drop-measurer) in such a way that he could make the drops of cocoa-nut oil fall from the little ivory ball at intervals varying from one-third of a second up to twelve seconds. He finds that the drops are twice as large and twice as heavy in the first instance as in the last—that is, when the drops succeed each other more rapidly, they are individually larger than when they fall more slowly, amounting actually to double when the difference is as great as that above stated.

The Lady Bountiful and Mrs Nurse need not be troubled with a scientific explanation of this fact—how that it depends on the time which the gravitation of the drop has to overcome the adhesion between the oil and the ivory ball; but they are very much concerned in knowing that, when they administer medicine 'as before,' in so many drops per dose, the quantity will vary according to the interval of time between the drops. If they hurry the dropping too much, they may administer thirty drops to baby instead of twenty; and then—we draw a veil over the consequences! Even medical practitioners themselves are cautioned: 'A pharmacist who administers a hundred drops of a liquid at the rate of three drops per second, may give half as much again as one who measures the succession at the rate of one drop in two seconds.' Inasmuch that we have not only to be on our guard against taking a drop too much, but must also see that our drops are not immoderate in size.

Then comes another question—the constitution of the liquid of which the drop is composed. Water is the most easy to experiment upon, because it is plentiful, and because it furnishes us with the type of all our notions about drops in being the material for drops of rain. But many other liquids have to be tried before we shall understand the philosophy of a drop. Professor Guthrie tried many different degrees of strength in solutions of chloride of calcium—that is, what we usually call chloride of lime dissolved in water. Here he found that the drops of this liquid are always smaller than those of water, and in a degree depending on the strength of the solution; the greater the strength, the smaller the drop. The experiments were continued until the sizes of the individual drops varied from each other in the ratio of three to four. Therefore, the more salt you make the water, the smaller are the drops into which it will naturally form, other conditions being equal.

But liquids differ in other qualities than their mere saltiness: they may be acid, or oily, or ethereal, or spirituous; and we are not entitled to say beforehand how far or in what way this difference

in chemical constitution will affect the sizes of drops which they form. Our philosopher did not neglect this inquiry. In order that the ivory ball might not be affected by chemical agents, he employed that very obstinate and unalterable substance platinum, which he fashioned into a small hemispherical cup, and caused the drops to fall from the convex bottom of the cup by a carefully-managed overflow. All other liquids whatever are found to yield smaller drops than water; mercury or quicksilver is especially distinguished in this way, the drops being only one-third as large as those of the universally-diffused liquid—of course, they are much heavier, but we speak here of size or bulk.

Here, again, the Lady Bountiful and Mrs Nurse must be on their guard. Not only do drops differ in size according to the rapidity with which they fall, but they are also directly dependent on the nature of the liquid which composes them; they are all more or less unlike in size, and drops of water are the largest of all.

Then, as to the size and shape of the solid substance from which the drops fall. We might at first sight expect that this would have no influence on the matter. But the contrary is the case. It is found that when a large instead of a small ivory ball is employed, the drops from it are larger in size. It is true that all the balls experimented upon were small; but so far as the determinations went, the larger balls produced the larger drops. Professor Guthrie went to the expense and trouble of preparing solids in many different shapes besides the spherical; he made cylinders, rings, cones, and disks; he arranged solids with flat surfaces, edges, angles, curves, and points underneath; he caused the liquid (of whatever nature it might be) to flow over the solid in an equable and regular way—by apparatus too delicate to understand by mere description—and then to drop in little globules. He weighed a hundred, a thousand, or any definite number of them; and was then able to determine their relative sizes by the relative specific gravities of the liquids, if the latter were dissimilar, but by a more simple formula if one liquid only were employed. The general result was this: the sharper the point, the smaller the drop; smaller from a point than from an edge, smaller from an edge than from a curved surface, smaller from a curved surface than from a horizontal flat surface, smaller from a little flat disk than from a larger one.

Out of this fact arises another caution to the dispensers of drops. Look to the size of the neck and lip of the phial containing medicines; if the vessel is thick and rounded at the spot from which the drops are made to fall, rely upon it that the drops themselves will be individually larger than when a thin-lipped phial is used. Professor Guthrie has ascertained this, and he shews how it depends on the adhesion of liquids to solids, as well as upon the cohesion among the particles of liquids themselves.

Even this is not all. There may be any one of many different liquids dropping from one solid, or there may be any one of many different shapes given to the solid; but how if the nature of the solid itself varies? Would a brass ball yield drops the same in size as those from an ivory ball, and glass the same as brass, and cork the same as glass? Now, it is found that the drops from brass are larger, and those from cork smaller, than from either of the other two substances; and there is

reason to believe that, other conditions being equal, there would be a particular size of drop for each substance whence it falls. Out of this might arise another hint to be added to those already given concerning drop-dispensing. Look to the material of the vessel as well as to its shape; earthenware and porcelain would probably have nearly the same action in this matter as glass; and medicine is likely to be dropped from one or other of these three kinds of vessel; but still it is well to bear in mind that the nature of the material is one of the determining elements. Antimony, sulphur, zinc, lead, phosphorus, bismuth, and tin lead to the formation of drops varying in size according to the order in which the substances are here named; that is, water or any liquid medicine dropping from a ball of antimony forms smaller drops than from a ball of tin of the same size—the other substances giving intermediate results. This is not likely to affect the nursery or the sick-room, seeing that these substances are not employed for making vessels to hold medicine; but it may be a fact worth bearing in mind in references to scientific experiments and the practical arts.

Of course, Professor Guthrie did not fail to inquire whether temperature has anything to do with the matter; the question would naturally suggest itself to most persons. He used a small glass sphere of definite size; he employed distilled water; and he allowed the drops to fall at equal intervals of time. The only variable element was the temperature to which the water was brought, and which he varied to the extent of 40 degrees Fahrenheit, trying it at various degrees as he went on. The result was not exactly such as might be expected; the drops differed in size as the temperature differed, but not in a noticeable or important degree. So far as the difference goes, the colder water gives the larger drop.

One remarkable experiment suggests a hope that the size of a drop will assist in determining whether a particular liquid has or has not been adulterated—a fact in which dealers and others are a good deal interested. Professor Guthrie contrived a very ingenious apparatus, by which drops of one liquid were made to fall, not through air, but through another liquid. He obtained the unexpected result, that drops of water, falling through oil of turpentine, were no less than eight times as large as when falling through air. There is another inflammable liquid, benzole, which presents many analogies with oil of turpentine; but to the experimenter's great surprise, drops of water were three times as large individually when falling through the one liquid as when through the other. Further research shewed that any admixture of the two gave to the water-drops an intermediate size, and the size varied according to the ratio of the mixture. Bear in mind; this is not a comparison between drops of benzole and drops of oil of turpentine, but between drops of clear water falling through those two liquids. The test is much more sensitive in this latter case than in the former. Everyday folks cannot make the experiment, because it requires apparatus contrived for the purpose; but if it be found practicable to test a high-priced liquid, to see whether it has been sophisticated by one of less value, merchants and dealers will very soon encourage instrument-makers to prepare the apparatus, as they now do hydrometers, alcoholometers, alkalometers, acetometers, lactometers, and many other 'ometers.' This

seems by far the most important result at which Professor Guthrie has arrived; it tells upon pounds, shillings, and pence in a significant way—or at least may do so, if present anticipations should be realised.

Bubbles, bubbles. We hear of them in Shakespeare's definition of reputation, and to rhyme with toils and troubles; and we know too much of them as another name for nefarious joint-stock companies; but the Professor's innocent bubbles are very different things, made for an honest experimental purpose. He wished to ascertain whether bubbles, like drops, vary in size according to any definable rules. The investigation was a difficult one. He had to determine what liquid should form the envelope of the bubble, and what air or gas the contents; and then to devise some means of measuring the size of a bubble. The research cost him more trouble, and taxed his inventive ingenuity more continuously, than the investigation concerning drops. He tried whether bubbles are the same size when produced slowly or rapidly, and found that the former mode gave the larger bubble, although in an unimportant degree. He tried whether the size was influenced by the nature of the gas or air within the bubble; and found that, among five different kinds, nitrogen gave the smallest bubble, hydrogen the largest, and atmospheric air, carbonic acid gas, and oxygen between the two extremes; the difference, however, in this as in the former case, was not considerable. The temperature and tension of the gas or air were also found to be productive of only a small amount of change. But the most notable cause of difference was the size of the orifice from which the bubble arose. Much larger bubbles came from a tube of large diameter than from a smaller one. In the experiments made on this point, the difference between two extremes was as much as tenfold. If one tube has double the bore of another, it will yield bubbles five times as large in bulk, all the other conditions being equal. The experimenter points out ways in which this fact may become of use in scientific investigations; applications to the practical arts may make their appearance by and by.

A chemical change in the nature of the liquid was next tried, in the well-founded expectation that different liquids would produce bubbles of different sizes, other circumstances being equal. Mercury, glycerine, water, butyric acid, acetic acid, alcohol, benzole, oil of turpentine, acetic ether—all were tried, and with significant results. That the size of a bubble of mercury (the only metal liquid at ordinary temperatures) should differ from that formed by any other liquid, may reasonably be expected: to form a bubble at all in it is no easy matter; but when formed, it is three and a half times as large as one formed of water. Glycerine takes the lead among the other liquids named, producing bubbles about half as large again as those of water; the two acids produce bubbles half the size of those of glycerine. Lowest on the list is acetic ether, of which seven bubbles equal twenty-four of glycerine or eighteen of water. This, if verified and carried out further, may possibly lead to a method of finding out the nature of a liquid by the size of the bubbles. In this case it would have one advantage over the method by drops: that a much smaller quantity of the liquid to be tested would suffice; and another advantage would be, that it is applicable to every liquid

without reference to its solubility in others. As to those very beautiful things, soap-bubbles, the chief reason why we know more about these than about most other kinds of bubbles is, that they are easy to produce. A tobacco-pipe and a little soapy water are to be found abundantly enough; and the cohesiveness which the soap imparts to the water leads to the production of large bubbles very readily. The glory of the soap-bubble lies in the fact, that it was one of the things which led Sir Isaac Newton to his Theory of Light; the exquisite colours, depending on the varying thickness of the walls of the bubble, were a mystery before his time; but he traced them to an intelligible theory. Honour to the soap-bubble.

All things considered, these Drops and Bubbles seem likely to play rather an important part in scientific, manufacturing, and commercial investigations.

PEN AND SCEPTRE.

NOTES ON A FEW ROYAL AUTHORS.

A RECENT example has proved that there is some danger in an Augustus stepping down from his imperial throne to appear before the tribunal of the critics; and that it is not always wise for a monarch to lay by the sceptre, and take up the pen. Unless a king can write as well as he can rule, can marshal his thoughts as skilfully as his legions, he will do well to avoid the young-ladylike ambition of appearing in print. When Cæsar enters 'the Row,' he becomes very human; and though an Augustus, will assuredly encounter a Labienus.

The Roman Augustus, nephew and heir of Cæsar, was, like his uncle, an author. Suetonius informs us that he composed in prose many works of different kinds, but made them known only to his friends and courtiers. In this manner were put forth his *Replies to Brutus concerning Cato*, which amused his old age; his *Exhortations to the Study of Philosophy*; and the thirteen books of his *Memoirs of his own Life*, which he brought down to the war with the Cantabrians. He also attempted poetry. A hexameter poem of his was extant in the time of Suetonius, which had for its title and its subject *Sicily*; as well as a collection of epigrams, which he was wont to compose while enjoying the bath. He had begun with much ardour a tragedy on the story of Ajax, but being dissatisfied with the style, he destroyed it; his friends one day inquiring what had become of Ajax, 'Ajax,' he replied, 'has thrown himself headlong on a sponge.' It was with a sponge that the Romans effaced writing from the papyrus.

Tiberius, his successor, cultivated both Greek and Latin letters with enthusiasm. He selected for his model, among the orators of Rome, Messala Corvinus, whose laborious old age the astute youth knew how to admire. But he obscured his style by his fantastic mannerisms; what he wrote or spoke at the spur of the moment, was superior to the results of his midnight meditations. He composed a lyric poem, entitled *A Lament on the Death of Lucius Cæsar*. He also dabbled in Greek verses, imitating Euphorion, Theariss, and Parthenius—authors unknown to the English student except by name, but whom he valued so highly that he placed their works and portraits in the public libraries, among the most illustrious of the authors of antiquity.

Claudius also wielded the stylus, as well as the sceptre. He essayed historical composition, encouraged by Livy, and assisted by Sulpicius Flavius. He invented three letters, which he thought very necessary, and added them to the alphabet. Heaven forbid that any royal author should now a days take such a liberty! The study of Greek literature he pursued with commendable ardour. A Barbarian spoke before him in Greek and Latin. 'I see with pleasure,' said Claudius, 'that you know my two languages.' In the senate, he sometimes replied in Greek to the discourses of the ambassadors, and on his tribunal would often edify his auditors with Homeric quotations.

Nero, as everybody knows, was a musician. He was also a poet, and recited his verses in public. Happily for him, his audience durst not criticise. The title of one of his poems has descended to posterity, *The One-eyed Man*, a tirade against the prætor Clodius Pollio.

Of Domitian, it is recorded that he wrote a Treatise on the Hair. The wise and austere Hadrian composed a history of his own time, but is better known as the author of the tender Latin verses translated by Pope:

Animula, vagula, blandula,
Hæc pes, comesque corporis,
Quæ nunc abibis in loca
Pallidula, rigida, nudula;
Ne ut soles, dabis jocos.

Of all the works of the great Marcus Aurelius, there remain but twelve books of his *Moral Thoughts*, in Greek, and a few Epistles. The works of the Emperor Julian consist of his *Letters*, his *Satire on the Roman Emperors*, and his *Misopogon*. His subjects had ridiculed his beard; he retorted in the last-named able treatise, and composed under this title, *The Enemy of the Beard*, what was at once 'an ironical confession of his own faults, and a severe satire of the licentious and effeminate manners of Antioch.' Gibbon tells us that the imperial reply was publicly exposed before the gates of the palace; and the *Misopogon* still remains 'a singular monument of the resentment, the wit, the humanity, and the indiscretion of Julian.'

Two of the emperors of the East may be included among our royal authors. Leo VI., surnamed 'the Learned' (died in 911), wrote a book on military tactics, which is of high value to the antiquary. His son, Constantine Porphyrogenitus (born in the purple), was much more voluminous. Long banished from public affairs by the arts of his uncle, Alexander, and his mother, Zoi, he devoted all his time to study. After gathering together a numerous library, he compiled, with the aid of amanuenses, a large collection of extracts from the works of Greek authors; the collection was comprised in fifty-three books, of which only two remain. The first, entitled *Excerpta Legationum*, treats of embassies and ambassadors; the second, *De Virtutibus et Vitiis*, furnishes historical examples of vice and virtue.

Constantine was not only an author but a skilful painter—a connoisseur in architecture of some pretensions—a musician and composer of sacred music—and well versed in metallurgy and ship-building; in a word, a Royal Crichton!

The kings of France have frequently exchanged the sceptre for the pen. Passing over Louis XI., who was one of the principal authors of the semi-religious, semi-licentious *Cent Nouvelles Nouvelles*,

we acknowledge in that gay and gallant monarch, Francis I., a crowned poet. While a prisoner in the dominions of Charles V., he wrote an eclogue, entitled *Admetus*, and numerous small pieces, distinguished both by grace and delicacy. The reader will thank us for a specimen:

Le mal d'amour est plus grand que ne pense
Celui qui l'a seulement oui dire ;
Ce qui nous semble ailleurs légère offense,
En amitié se répute martyre.
Chacun se plaint, et gémit, et soupire ;
Mais s'il survient une seule heure d'aise,
La douleur cesse, et le tourment s'apaise.

Imitated :

Oh, keener far Love's pains than he may deem
Who knows them but by hearsay ; things which seem
To touch us lightly otherwise, appear—
When aimed by friendly hands—to cost us dear :
Each then bewails himself, and mourns, and sighs ;
Yet if one hour of bliss but dawn anear,
His grief soon ceases, and his torment dies !

Charles IX. was passionately fond of a blacksmith's pursuits ; but he was also a poet, and struck out on the anvil of his imagination some verses which Brantôme has thought not unworthy of praise. Henri Quatre, the hero of the snow-white plume, composed numerous lays of love, which have often been published, and of which the lyrics in honour of the beautiful Gabrielle are widely known.

Tallemant says of Louis XIII. that he was an excellent confectioner and a good gardener ; he could force green pease and lard joints of meat. He was also an enthusiastic barber, and one day shaved the beards of all his officers, leaving them only a small tuft at the chin. This same Louis XIII. composed music, and not indifferently ; he set the *rondeau* which celebrated the death of his great minister :

Il a passé, il a plié bagage, &c.

[He has gone, he has packed up his luggage, &c.].

He also painted a little. In fine, as his epitaph expressed it :

Il eut cent vertus de valet,
Et pas une de maître.

[He had a hundred virtues of the valet, and not one of the master !]

Louis XIV., Le Grand Monarque, has left behind him some works of little importance ; Louis XV., a small geographical treatise, *Course of the Principal Streams and Rivers of Europe*, composed when he was a pupil of the geographer Delisle. To the pen of the unfortunate Louis XVI.—happy for him if he had never wielded the sceptre—we owe a *Description of the Forest of Compiègne* ; a selection of *Moral and Political Maxims from Fenelon's Télémaque* ; and it is said a translation of Walpole's *Historic Doubts on the Life and Reign of Richard III.* Louis XVIII., as a man of wit and knowledge, shed a certain amount of ink. He published anonymously various indifferent essays, political and literary, of which the best known is a *Relation d'un Voyage de Paris à Bruxelles et à Coblenz*—a moving narrative of gastronomical difficulties. The literary compositions of his illustrious rival, the first Napoleon, were of a different character. Exaggerated in thought and style, they nevertheless betray the inspiration of a bold and sagacious mind. The most interesting are undoubtedly those *Mémoires de Sainte-Hélène*, in which the great soldier whose sword had terror-stricken Europe during his life, sought with his pen to influence its

judgment and policy after death. Who shall say that as an author the hero of Austerlitz has been unsuccessful ?

Our English sovereigns have been less literary in their tastes than the kings of France. Alfred found leisure, amid the cares and anxieties of an unsettled kingdom, to translate the *Ecclesiastical History* of Bede, the *Epitome of Ancient History*, by Orosius, and Boethius's *Consolations of Philosophy*. The next English royal author was Henry II., who composed numerous verses in the sweet Provençal tongue. His poetical mantle descended to his son, Richard the Lion-Heart. Many of his compositions survive. As a specimen of the minstrel talent of this gay, rough, and gallant Plantagenet, we subjoin the first verse of the ballad which he composed while a prisoner in an Austrian dungeon :

Jamais nul homme prisonnier ne dira sa raison
Franchement, sinon comme homme malheureux,
Mais pour consolation doit-on faire chanson,
Assez j'ai d'amis, mais pauvres sont les dons ;
Honte leur est, puisque pour ma rançon
Je suis ici deux hivers prisonnier.

[No prisoner will utter his feelings truly if he speak not of himself as an unhappy man, but some consolation may be derive from minstrelsy. I have friends enough, but their gifts are scanty ; the shame is theirs, that for lack of ransom, I have languished here two winters as a prisoner.]

Henry VIII. was a theologian, but assuredly with very regal tastes. His impartiality can hardly be doubted, for at one time he fulminated against Luther, at another he hurled his denunciations against the pope.

James I. is better known as an author. He, too, dabbled in theology ; denounced the use of the pernicious weed which Sir Walter Raleigh had rendered fashionable ; and displayed his ill-digested condition and his bigoted prejudices in his *Demonology*. His self-sufficiency, weakness, and pompous vanity, are visible on every page ; his style is involved, obscure, and jejune ; yet it would be unfair to deny that his remarks are frequently shrewd.

His literary tastes descended to his son, but in him displayed themselves in a more refined and elegant form. The *Eikon Basilike*, however, so long attributed to Charles I., was undoubtedly the work of one of his chaplains, Doctor Gauden. His poetical compositions breathe a dreary melancholy ; the best known are the *Suspiria Regalia* (or Royal Sighs), and *Majesty in Misery*. Among the royal manuscripts were found the following couplets :

A coward's still unsafe, but courage knows
No other foe but him who doth oppose.

A pick-thank and a pick-lock, both are alike evil,
The difference is, this *trots*, that *ambles* to the devil.

Charles II. dropped many 'airy nothings' from his saturnine lips, but never entered the literary arena as an author. James II. composed his own Memoirs, which may be studied by the curious among the Stuart Papers. He was the last of our kings who handled both pen and sceptre.

We can but glance at a few other royal authors. The Emperor Frederick II. was an excellent poet, and a good Latinist. His book, *De Arte Venandi cum Avibus*, is said to display no inconsiderable amount of erudition. The Emperor Charles IV. composed a history of his own reign. The able and versatile Maximilian I. was a voluminous

writer, but few of his productions have been preserved. His fertility was astonishing: he wrote on the military art, on gardens, on heraldry, on horses, on weapons, on falconry, on cooking, on wines, on fishing, on horticulture, on architecture, and on morality.

Sveno, king of Norway, who died in 1202, is the supposed author of the *Royal Mirror*, composed in the Erse language, and published, with a Danish and Latin version, under the title of *Speculum Regale*, in 1768. This work includes a small treatise on astronomy and physics, and some good descriptive notices of the volcanoes of Iceland.

Gustavus Adolphus penned some historical memoirs, which were mostly destroyed at the conflagration of the palace of Stockholm, towards the close of the seventeenth century. The Polish sovereign, Stanislas Leczinaki, has left behind him numerous works in French and Polish. Those in French have been collected and published under the title of *Œuvres du Philosophe Bienfaisant*.

Peter the Great, who attempted, and succeeded in, so much, did not forget to essay the art of literary composition. He translated various technical treatises on architecture, the art of turning, the construction of wind-mills, and subjects of a similarly practical character. The journal which he kept during his war with Sweden (1698 to 1714) has been published, and translated into French.

Frederick II. of Prussia, the correspondent of Voltaire, almost equalled Maximilian in voluminousness. His works have been collected in twenty-three octavo volumes, and include his letters, his poetical efforts, and his historical memoirs. Among the last, the most valuable are his *History of the House of Brandenburg*; his *History of his own Time* (1740—1748); and his *History of the Seven Years' War*. Macaulay's criticism of the royal author is in his most trenchant style: 'He wrote prose and verse,' he says, 'as indefatigably as if he had been a starving hack of Cave or Osborn; but nature, which had bestowed on him, in a large measure, the talents of a captain and of an administrator, had withheld from him those higher and rarer gifts, without which industry labours in vain to produce immortal eloquence and song. In history, he succeeded better. We do not, indeed, find in any of his voluminous Memoirs either deep reflection or vivid painting. But the narrative is distinguished by clearness, conciseness, and simplicity, which is singularly graceful in a man who, having done great things, sits down to relate them.'

Female royal authors are numerous. Among the more eminent are the two Marguerites—one, the sister of Francis I., who wrote those lively but licentious tales, known under the title of *The Heptameron*; the other, the gay wife of Henry IV., who composed much graceful verse; Elizabeth, wife of Charles IX.; Margaret of Austria, daughter of the Emperor Maximilian; and the wild, imperious, half-insane Christina of Sweden. Elizabeth of England deserves a high rank among these learned ladies; she composed in Greek and Latin, and has left some English poetry, which the curious may see in D'Israeli's *Amenities of Literature*.

Mary, Queen of Scots, was also a poet. The graceful *Adieux*, indeed, though attributed to her royal pen, were probably not written by her; for Brantôme, who accompanied her on her return to Scotland, and has recorded the minutest details of her grief at quitting France, does not allude to the poetical lamentation. No doubt, however, attaches

to the authorship of the verses which she composed on the death of her husband, Francis II. We select two or three stanzas:

En mon triste et doux chant,
D'un ton fort lamentable,
Je jette un deuil tranchant,
De perte incomparable,
Et en soupirs cuisans
Passe mes meilleurs ans.

Qui en mon doux printemps
Et fleur de ma jeunesse,
Toutes les peines sens
D'une extrême tristesse,
Et en rien n'ai plaisir
Qu'en regret et désir.

Si en quelque séjour,
Soit en bois, ou en pré,
Soit sur l'anbe du jour,
Ou soit sur la vesprée,
Sans cesse mon cœur sent
Le regret d'un absent.

Our list of royal authors terminates with the name of Napoleon III.; but his *History of Caesar* has recently been examined by so many critics, that the reader will gladly dispense with any further words either of praise or censure. For ourselves, we believe that it furnishes another proof—to strengthen the evidence accumulated in these desultory notes—that 'the capacity to rule' is seldom, if ever allied with 'the capacity to write.' Assuredly, few royal authors would find their works in much demand at Mudie's, or frequently taken down from the sacred seclusion of the shelves of the British Museum. Is it easier, then, to wield the sceptre than the pen? and was there as much truth as bitterness in the famous saying of the Swedish statesman? Is the world indeed governed 'with little wisdom,' and does the highest genius seldom shine in the purple, or thrive upon the throne? We leave our readers to reply; convinced, at all events, that it is best—even for monarchs—to stick to their *métier*, and that Augustus makes but a sorry figure in academical costume.

SEALED UP.

IN TWO PARTS.—PART II.

'ENGLISH baron, His Excellency the governor has charged me with this note,' said a tall Russian chasseur, taking off his feathered hat, and bowing in the abject style usual among Muscovite servants, as he handed me a letter sealed with the Annenkoff arms. It was not a very important document, merely an invitation to an evening-party at the Residence; but a good deal turned upon it, as we shall presently see. General Annenkoff's entertainments were not of a very delightful character, at least to a foreigner like myself, insensible to the charms of Boston, 'wisk,' and sixpenny lansquenets, enlivened by *eau sucrée*, scalding tea, and the last month's scandal from St Petersburg. But the intention of the host, who was a widower, and whose three stiff-backed and elderly sisters did the honours of his saloons, was at any rate a kind one, and in my position it was necessary to be on good terms with the governor of the province.

I penned my acceptance, therefore, delivered it to the meek giant in livery, and thought no more about the matter until it was necessary to dress for the governor's 'reception.' We were indeed unusually busy at the bank. The tax-gatherers had collected various sums of money, to a large

aggregate amount, and these sums the fiscal authorities insisted on consigning to our care for the present. It was impossible, the procurator declared, that the cash collected for the emperor's use should remain in private houses or petty village bureaux, exposed to risk from the cupidity of robbers, or the resentment of the peasantry. Already, more than one functionary had been attacked, beaten, and forced to disgorge the sum he had wrung from the tillers of the soil, and the others refused to go on their rounds without military protection. It was indispensable, therefore, to intrust the funds that had been gathered to the custody of our strong doors and iron safes, and the clerks were constantly busy in receiving and registering the deposits of public property that flowed in.

The governor's rooms were unusually well lighted, and the guests were more numerous than was customary. In general, I had had to grope my way through the long range of shadowy saloons, parsimoniously illumined here and there by a slim candle, until I reached the card-room, where the Demoiselles Annenkoff held state. The company had ordinarily consisted of six or seven obsequious functionaries of government—whose grand object it appeared to be to cause their Russian chief to forget their Polish origin—of their wives and daughters, of an invalided colonel, a stray German speculator or *savant*, and myself. But on the present occasion there was plenty of light, and most of the officers of the garrison, with all the official world of Plock, and the more timid or 'well affected' of the neighbouring landed proprietors, had been convened.

All this lavish expenditure in wax-lights, new liveries, clean packs of cards, and creature comforts (for the refreshments were on a scale of liberality that must have given the fair entertainers many a heartache), had, it appeared, been undertaken in compliance with instructions from St Petersburg. The emperor's august whim was to conciliate, and the word had been given to win the hearts of the Poles, unless that stiff-necked race should refuse to bask in the sunshine of imperial clemency, in which latter case the recusants were to be chastised, not with rods, but with scorpions. On this account the general and his grim sisters had decked their faces in smiles, and were overwhelming the Polish landowners with civilities, while pressing upon these unwilling guests the absolute necessity for enlightening the benighted population as to the amiable intentions of the Czar.

'Welcome, worthy sir,' said the governor as he caught sight of me; 'I am enchanted to see you amongst us. Anastasie, Catharine, Anne, why don't you welcome our good English friend, this dear Monsieur Sandilands, whom we are so glad to possess among us here in Plock? Ah, monsieur, do but join your efforts to mine, to persuade the good Abbé Paul, and Count Jeziorinski, and the *belle* Madame Grabowski, whose devoted slaves we are, to use their influence with the people in getting in this bagatelle of a tax. It makes one's heart bleed to have to compel payment, and it would be so much pleasanter if'—

'If the sheep would but come forward and submit itself to the shears with a good grace,' said the Abbé Paul, with a bow and a smile, which elicited a darkling scowl from each of the Misses Annenkoff. The old ladies were not hypocrites at heart, and it galled their Muscovite pride to have to humour a

conquered race. There were many Russians present who were of the same way of thinking; and I heard more than one expression of impatience, on the part of the officers of the garrison, at the waste of time implied by any attempt to soothe and cajole an untamable though subject people.

'My men were fired at to-day,' said one captain of infantry, twisting his yellow moustache; 'three shots were discharged at us from behind a wall, close to the King's Oak.'

'Any casualties?' asked the subaltern to whom he spoke.

'Nothing of importance. A corporal had his arm shattered. We burned the farm, of course.'

'Of course!' returned the subaltern, with an air of easy indifference. 'I did just the same last week, at a mill lower down the Vistula. Shoot, stab, and burn—that's the only way to deal with the Polish dogs.'

'Hush! young gentlemen,' said General Annenkoff harshly; 'the emperor's heart is full of kindness to his Polish subjects. It is only the ungrateful prompters of rebellion that he desires to chastise.'

I really do not believe that General Annenkoff had any desire to play the tyrant. He was a well-meaning man, like many of the imperial functionaries, and would much have preferred to be governor of a loyal province and a contented population. He had his faults, parsimony and insincerity, but he was never cruel out of wantonness. On the contrary, from his first appointment, he had kept a tight hand upon the troops under his control, never permitting the peasantry or nobles to be molested by the garrison of Plock. But of late all this had changed; the Cossacks scoured the country, enforcing the payment of taxes by military execution, and the Russian infantry, detached on similar duties, grew day by day more lawless and ruffianly. Some injudicious acts on the part of the more hot-headed Poles had served to exasperate the soldiers, and a few guerrilla assaults on parties of foragers had provoked more than one sanguinary retaliation.

I was preparing, after spending a reasonable time in the governor's saloons, to make my bow and retire, when General Annenkoff took me by the button-hole.

'Monsieur Sandilands,' said he, 'you have a good deal of cash belonging to government in your keeping. Before long, the deposit will be greatly increased. Hist! come this way, for I mistrust that abbé with his sharp ears. You see how we are caressing the Poles, *mon ami*? It is the emperor's will, and for my part I prefer it to severity; but it has no more effect than coaxing would have upon the bristles of a hedgehog. Look you—our orders are, that unless within three days the landowners prevail on the peasants and petty nobles to pay what is due to the fisc, we are to act with vigour. In three days we shall have money, or money's worth, out of these obstinate folks, and there will be a great sum in bank. I want you to turn this into gold, as more portable than silver, and to give me notice, that I may send word to the commandant of Modlin to fetch it away with boats and soldiers. It will be safe nowhere but in a fortress like that. Those accursed rebels of the Central Committee—Ah, Monsieur Jeziorinski, I have a picture I wish you to see. I was about to shew it to Monsieur Sandilands. It is a Poussin; &c.'

As I walked home that night, I felt a sort of gloom had been thrown over my spirits by the

governor's words. I knew too well from report what sort of actions were included in the course of conduct indicated by the phrase of 'acting with vigour.' Trippingly as the words had rolled from the general's lips, they acquired a terrible significance by the time they reached the ears of the hard human tools of Russian statecraft. I thought little of the large sums about to be poured into the bank; my meditations were busy with the probable means by which they would be procured, and I shrunk from the idea that I was about to be brought face to face with tyranny in its direst form.

My sad anticipations were realised. Four-fifths of the people stubbornly refused to pay the dues demanded from them, and preferred to obey the unseen national government rather than the alien governor. Whether the more malleable of the Polish landowners really did remonstrate with their fiery compatriots, if only *pro forma*, I cannot say, but at any rate, the fine words of General Annenkoff produced no adequate result. The population doggedly held out; and the troops, under the orders of an active officer, Major Gruchow, whose severities were notorious throughout Poland, hurried like vultures to the prey. In a short time the whole province was filled with groans, and tears, and piteous lamentations at the rapacity of the Russians. The widow's cow, the peasant's little hoard of seed-corn, the working oxen of the farmer, the carrier's pack-horse, were confiscated without remorse or appeal. Houses were rifled, stores of provisions seized; the village girl was robbed of the silver ornaments that three generations had worn proudly at fair or church; the thrifty matron lost her cherished linen from the oaken press; the husbandman saw his cattle driven off by the Cossacks. Those who resisted were roughly handled, and, in some cases, wounded or imprisoned, but not, so far as I know, in any instance put to death.

The result of all this and of similar inroads upon the property of the nobles was, that immense droves of horned cattle, horses, hogs, and sheep, together with many wagon-loads of grain and hay, linen, wine, and other matters, were collected in Plock, whither, at the first rumour of military execution, had repaired numbers of Jews, Polish and German, eager to buy in a market that promised to be cheap. I have no doubt whatever that the value of the goods seized must have been at least fourfold that of the sum demanded from the province; but there was no fair sale. Indeed, no Pole, unless dead to patriotism, and fearless of the daggers of the agents of the Central Committee, was likely to buy; and the confiscated property was sold for absurdly low prices to such of the Israelite brokers as had the sense to secure a friend among the Russian officers. But even when bribery and huge profits had been allowed for, the sums poured into the coffers of the Land Bank were considerable.

My share in the business was, of course, a passive one. The procurator-fiscal paid in so many silver roubles and florins, for which I gave a receipt; and the next part of my task was to procure gold in exchange for the bulkier silver, in accordance with the governor's desire. I had never, save once, entered the square where the auction took place, and which was full of lowing cattle, bleating sheep, heaped-up corn and forage, of drunken soldiers, sedate officials bargaining stealthily with supple Jews in greasy gabardines, and a guard under arms

to keep order. The latter was no useless precaution, for the place swarmed with scowling peasants, who had come to see the ultimate fate of their chattels, and the muttered maledictions of the men were drowned by the shrill complaints of the women, as they tossed their arms aloft, and called down curses on the oppressor. It was a painful sight, and I was glad to get away from it.

During all this time I had been too much occupied to pay another visit to the Château Plaskzi, nor had I seen any of the family. To say the truth, I began to feel ill at ease on the subject of Otho Jablinski, and that on more accounts than one. Do what I would, the events of our late ride together towards his uncle's mansion would recur to my memory in a suspicious form. The Russian officer in pursuit of the daring conspirator who had affixed the rebellious manifesto to tree and wall, had permitted my identity to serve as a screen for Otho, and had jumped at the conclusion that the young man had kept me company all the way from Plock; and yet, such had not been the case, since Otho had appeared at the edge of a wood in the direction of the King's Oak, and I knew that an active horseman might traverse much of that district unobserved. I remembered some peculiarities in Otho's manner, his excitement, his reticence at our meeting with the Cossacks—trifles, no doubt, but confirmatory of my idea, that his might have been the audacious hand that posted up the seditious placard.

With this I had nothing to do. I was neither Pole nor Russian, and my sympathies were perforce with the former; but I could not but see that Otho's loyalty to the Central Committee might involve the whole family in ruin. The Major, I was aware, abhorred politics, but still the presence of one detected plotter had brought desolation to many a home. And then, if Otho, who had always affected the most careless indifference to political topics, were a dissembler in this, might he not be so in other respects? He had always appeared to regard his pretty cousin Rosalie with merely brotherly affection; indeed, he had talked, and so had those around him, of his intention of taking priestly orders, as the only profession in which his uncle the archbishop (a brother of his father) could be of use in promoting his advancement; and I had been accustomed to pity this fine-looking young fellow as one who was to be sternly cut off from family ties and domestic affections, since the Plaskzi estate must pass to other hands after the Major's decease. But suspicion, when once awake, takes a wide range, and I now recollected that though Otho seldom spoke to Rosalie, his dark eyes followed her every movement, and that his voice when he addressed her was not so frank as when he spoke to her sickly sister, poor Jeanne.

It was therefore with very checkered feelings that I rode out to Plaskzi on a boisterous spring morning, when the poplars were swaying to the frequent gusts, and a few flakes of late snow were whirled hither and thither by the bleak wind that swept howling across the sandy plains. My own mind was a puzzle to myself, and I scarcely knew what to think. Was I really in love with Rosalie, and had I any serious idea of the practicability of my affection meeting with a return? And if not, by what right did I cherish those jealous doubts respecting Otho, which had lately become so familiar to my thoughts? All this I knew not, nor, perhaps, did I care to probe my heart too keenly.

It was enough for the present to know that I was bound for the castle, the bearer of the final sum which the Land Bank was to advance to Major Armand Plaskzi on the security of his estate. The Major had been anxious, though why I could not guess, to receive this amount in gold; and at some personal inconvenience to myself, the Polish bank-paper had been turned into golden Fredericks and Dutch ducats.

'Our lord is out, noble sir,' said a groom as he held my stirrup while I dismounted. That was curious, trifling as was the circumstance, for the Major was rheumatic and lame, and seldom ventured abroad save in fine weather. I asked if he were anywhere on the estate, but none of the servants could tell me at what hour his return was probable. He had ordered the gray horse to be saddled, and had taken Ladislaus the *écuyer* to ride with him, and no doubt he was visiting at some castle in the neighbourhood. But the young ladies were at home, and so was M. Otho, or so the motley population of the stable-yard opined. I unbuckled the heavy bag of gold from my saddle-bow, and entered the house. In the first and smallest of the saloons, I found Jeanne Plaskzi standing beside an old cabinet of some dark Indian wood, inlaid with tortoise-shell and ivory, sorely stained and cracked by age and neglect, apparently sorting a mass of papers and parchments which the drawers contained. Her harp was within reach, and as my figure appeared in the doorway, she allowed one of her thin white hands to drop, as if carelessly, on the strings, and to strike a few abrupt notes, that rang through the rooms like a warning from some viewless guardian of the threshold. So completely did the shrill and sudden sounds impress upon my mind the idea of a signal whose purport I could not comprehend, that I looked scrutinisingly around, and listened to hear if anything unusual were in progress.

Jeanne, however, was quite composed in manner, and there was no tinge of colour in her pale face as she turned to welcome me. She regretted that her uncle was from home, but of course I would await his return. I must be hungry; she would order refreshments. Rosalie was in the yellow drawing-room, and would be glad to see me. So saying, she went, and I proceeded through the long suite of five rooms. Splendid saloons they were, for some bygone owner of the castle, perhaps enriched by Turkish plunder or Russian bribes, had spent considerable sums in their adornment. The great mirrors, dim and starred, in their claw-footed frames of tarnished gold, must have cost as much as would have drained every marsh on the estate. The furniture was all from Paris or Vienna, and its faded brocade and rich inlaid surfaces of buhl and rare woods still preserved an air of shabby splendour. The ceilings had been painted with eighteenth-century mythology, but the bright-coloured groups were masked by cobwebs and dirt, and the deeply-gilded cornices and pilasters were green with damp and gray with dust.

The yellow room alone had escaped renovation in the taste of the Regency of Orleans, and its walls were hung with tapestry, that may very probably have been wrought by ladies who bloomed and withered as the contemporaries of our own Plantagenets. The furniture was, of course, less antique, but it was of plain yellow velvet, and the windows were of stained glass, rich with fantastic devices of green ships tumbling over purple seas, or blue boars

in a red forest, beneath which was inscribed many a quaint proverb in High-German. This room was a favourite retreat of Rosalie's, and there, as her sister had said, I found her alone.

Rosalie had seldom looked so beautiful; there was a brilliant but fluttering colour on her clear olive-coloured cheek, her eyes were softer in their dark light than was common, and her manner had a pretty embarrassment that added wonderfully to her attractions. I found her sitting in a great chair, as if in deep thought; and as she looked up, like a startled fawn, there were tears clinging to her long eyelashes. She was evidently disturbed in a reverie; but dared I hope that her thoughts were of myself? I did dare to hope it, for there was a timid gentleness in Rosalie's manner that was very new and welcome to me. She said nothing beyond the veriest commonplaces, such as any girl might have addressed in welcoming an intimate friend of the family; but the tone, the downcast look, the tremble of the sweet voice, converted all she uttered into music.

And had I really been so good as to ride through all that storm of cutting northerly wind and sleet, with the money her uncle had been expecting? How kind that was of me. What a pity Major Armand should be absent. He had gone to the Grabowski Castle, and would not be back perhaps till late. How vexations. Otho, too, was away. But if I would intrust the treasure to the keeping of a couple of silly girls—though dear Jeanne was wise, after all—they would sign any papers that might be necessary; that is, unless I would spend the day at Plaskzi, as they hoped I would, when I should be sure to see the Major sooner or later.

I scarcely know how it came about, but I soon found myself talking of the new tax, the confiscations, the sums paid into the bank on government account, and even the intention of the authorities to remove the coin under escort.

'That wretched money! Were I you, Monsieur Sandilands, how glad I should be to get rid of it, with all the tears and sorrow that cling to every rouble of it. How you must hate it—I should. Why do you smile? Ah! you are a man, wiser and more sensible than a foolish young girl like me; but I am a Pole, and must feel as a Pole. Which day did you say it was on which the Russians were to carry that wicked gold to Modlin?'

I was slightly startled. To the best of my recollection, I had said nothing of the sort; indeed, I had not mentioned the name of the formidable fortress whither the treasure was to be conveyed; and, indeed, it was only on that very morning that the governor had apprised me that, during the afternoon of Saturday, the boats would come down the Vistula to embark the sum in question. I gaily answered that I had but two more days—Thursday and Friday—on which the task of keeping the hateful cash would devolve on me. As I said so, I thought the tapestry on the walls, hanging as it did in loose folds, rustled perceptibly. It was but for an instant.

'The boats come, then, on Saturday?' asked Rosalie with a pout of her red lip.

'On Saturday afternoon,' answered I; and then looked uneasily round, as the tapestry stirred again, rustling still more audibly than before. 'I really could almost fancy,' said I smiling, 'that some one, some stealthy spy or conspirator, was lurking behind the arras, as they do on the stage in old-fashioned plays.'

'It is the wind,' said Rosalie eagerly.

And then, somehow, the conversation changed.

Jeanne Plaskzi entered very soon after these words had been exchanged, and while she was pressing wine and food upon me with the customary Polish hospitality, the Major suddenly appeared in his riding-boots, having paid a shorter visit to the château Grabowski than had been contemplated. To him, then, I handed over the money I had brought, received the proper acknowledgments, spent the afternoon very pleasantly at the castle, and rode home towards dusk. That was the evening of Thursday, and on Saturday the money was to be fetched away. I remember that on that night, after my head was on my pillow, I tossed and tumbled in sleepless restlessness for some hours, and finally dropped off into a disturbed slumber. From a dream of Rosalie Plaskzi I suddenly awoke to the fact, that the glare of a lantern was thrown full upon my face, and that a strong hand was rudely shaking me by the shoulder. Drowsily I opened my eyes, and uttered an exclamation of surprise, which was cut short by the pressure of an open hand upon my mouth, while a stern voice bade me 'keep silence, at my peril.' Two men wearing dark cloaks were at my bedside; and at the other end of the room were visible two or three shadowy figures, who were armed, for their weapons clanked as they moved to and fro, groping among my desks and private papers. Who were these? Robbers, or the wild creations of a feverish dream? My doubts were terribly resolved.

'In the emperor's name, Henry Sandilands, British subject, I arrest you for seditious practices and abuse of your official position,' said the taller of the two men who held me, speaking in perfectly pure French. 'Here is a warrant, signed by the viceroy himself, and countersigned by the governor of Plock. What we do is in strict obedience to our instructions, and I have orders to enforce submission at any cost.'

This speech was emphasised by the exhibition of a pistol, which the speaker's companion drew from beneath his cloak; but this weapon was hardly needed, for by this time my eyes, more accustomed to the yellow glare of light, could distinguish that five armed men, in the usual uniform of the Russo-Polish police, were at the other end of the room, breaking open my trunks and drawers without ceremony, but with little noise. To resist would have been folly, but I vigorously protested that I must be the victim of some singular mistake or calumny.

'Hardly of a mistake,' said the principal of my captors, with a civil sneer. 'You will scarcely desire us to believe that Plock contains two land banks, or two English managers bearing your exceedingly Britannic surname. As for calumny, I can only hope you will be able to establish your innocence to the satisfaction of your judges. For the present, we must do our duty. Will you give me your parole not to attempt escape or to call for rescue, or must I order you to be handcuffed?'

Seeing that further protest would be unavailing, I somewhat sullenly gave the required pledge; and immediately the shorter of the two men in cloaks produced pen, paper, and an inkhorn as deftly as he had drawn the pistol five minutes before, and sitting down at a table, prepared to write down my replies to the formal interrogatory which his companion at once commenced, politely, but in a tone that brooked no denial.

I was asked my name, age, birthplace, and antecedents; and when these facts had been noted down, I was commanded to furnish details regarding the actual condition of the Land Bank. To these I replied, briefly, of course, and with straightforward simplicity. In money belonging to the company, we had in hand twenty-two thousand roubles, and in securities at least seven times as much. Of private deposits, we held a sum of nineteen thousand and some hundred roubles, in paper and silver, besides valuable papers, plate, and jewels belonging to absent proprietors, and of which the money-value was not ascertained. The sums in our hands which belonged to government, and which were the produce of the recent taxation, amounted, as near as I could remember, to three hundred and eleven thousand silver roubles of Russia, and of this large sum more than four-fifths had, by special desire of the governor, been exchanged for gold, as more portable.

As I stated the amount of this last sum, I thought I saw my captors start as if surprised; but if so, the emotion was short-lived, for there was nothing but firm decision in the tone of the chief of the police as he pursued his interrogations. The next facts elicited were that of five clerks, including the cashier, none slept on the premises, where I alone, as manager, had apartments. Further, that I had but two servants, who slept below; that the cash was in the fireproof strong-room; that the three keys on a separate bunch, lying by my bedside, were those which opened the iron door of that room; that the cash-balance for every day exigencies was in a safe elsewhere, of which the cashier had the key; and that the books and vouchers were in another safe, in the bank parlour below.

It was in vain that, when these queries were finished, I demanded to know of what I was accused, and to be led at once before some authority competent to decide on the question of my supposed crime. I was briefly bidden to be silent. I should be tried, the chief of the police informed me, when it suited the *bon plaisir* of the viceroy. In the meantime, if I chose to give my parole not to attempt to leave the house or to communicate with the outer world, I might be permitted to remain in my own apartments, a sentry being posted at the door of the bank. If, however, I declined this indulgence, there would be no choice but to lodge me in the town jail, till the governor should forward me to Modlin or Warsaw.

I gave my parole. The police thereupon withdrew from my room, carrying with them my keys and papers, and informing me that for the rest of the night I must not quit my chamber, but that on the following day I might have the range of the house, in consideration of my promise not to excite a rescue by appeals to the passers-by. My servants were already, I was told, under arrest, as well as the bank porter, but I should be provided with a temporary attendant.

I did not sleep much more that night, as may well be believed. In spite of the evident wish of the police to make no disturbance, smothered noises, as if heavy weights were being carried to and fro, occasionally reached my ears, proving that the Czar's myrmidons were busy below; and soon after daybreak, I distinctly heard the roll of wheels and clang of hoofs in the street, as if a cart or carriage had rapidly driven off.

Presently the morning light, cold and gray, came

pouring through the windows, to shew the confusion that reigned in my chamber, and to prove that the arrest of the night before was no dream, as I was half tempted to believe it to be. Hour after hour passed, but there were no signs of life in the house; and when I dressed myself, and opened the door of my room, I heard nothing. I looked over the banisters, and saw a policeman in uniform, armed, as usual, with a short sword, asleep in a chair in the hall. The sound of my step awoke the man, who yawned, stretched himself, stared at me, and then said something in broken German about an 'English baron' and 'breakfast,' and disappeared in the direction of the kitchen, calling in a loud voice for 'Vanna.'

Vanna, an old Polish crone, wrinkled and bowed with years, presently arrived with a large bowl of hot coffee, a jug of cream, and some bread and honey, on a tray, and set down this refection with a bang upon the table. I have never felt assured whether this old woman, who waited on me, in some degree at least, during my strange incarceration, was very cunning or very simple. She was active enough in her self-imposed work, but was conveniently deaf to every word I uttered, and, indeed, I dare say my Polish was not very intelligible. Vanna brought me my dinner and supper, as she had brought me my breakfast, kindled a fire in the stove, and arranged my room, chuckling and grinning the while like an elderly ape; but she never understood one of the questions which I addressed to her, and seemed eager to get back to the kitchen.

Whether the clerks applied for admittance or not, I cannot say; I only know that the outer gate and window-shutters of the bank remained closed all day, and that the policeman in uniform sat all day in the hall. He was apparently the only man left in charge of the place. There were huge red seals, stamped with the eagle of Russia, on everything—seals on the door of the strong-room, seals on the safes, seals on the desks, the chests, the cupboards. Everything was solemnly and carefully sealed up, no doubt to await the viceroy's disposal. And so, in weariness and perplexity, the slow day dragged on.

Saturday came, and again Vanna brought me the smoking coffee, the bread and honey, and the jug of mantling cream. She was not a whit more communicative than before, merely replying to my inquiries by the reiterated words: 'The police! ah, ah! the police! yes, yes! *soh!*' The last monosyllable, as a German exclamation, and therefore a foreign phrase, which must be acceptable to foreign ears, being several times repeated for my behoof. Then Vanna set the bedroom in order, after a rough fashion, and disappeared, whither I know not. I never saw her again.

I had every reason to expect much such a day as the previous one, in all its monotony of dull and listless waiting; but one change I noticed towards noon. The leathern chair in the hall was in its old place, but it was empty. No policeman was on guard, or, if so, his watch was kept elsewhere. Some hours later, the buzz and hum of voices and noise of feet grew louder and louder. There was an incessant bustle, and I drew up the blind, and saw that a crowd had gathered beneath the windows. My appearance was hailed by shouts, and a hundred outstretched fingers eagerly pointed me out to the rest, while the outcry increased. What had happened? Was there a riot, and were

the people willing to rescue me from the hands of authority? I remembered my pledged word, however, and withdrew from the window.

What was that? Fresh shouts and heavy blows on the outer door; no mere assaults of a frenzied rabble, but the massive strokes of sledge and mallet skilfully and sturdily applied. Soon I heard the crash of shivered woodwork, and the tramp of feet, and the ring of arms; and in a minute more, the door of my room was opened, and General Annenkoff, in full uniform, livid with anger, stood scowling on the threshold. His aide-de-camp was with him, as well as two or three officers, and on the landing-place I could see three files of grenadiers, behind whom were the smiths and carpenters who had effected so forcible an entry.

'What mummery is this?' said the governor, in a voice that quivered with passion. 'Speak, sir, unless you are mad. Why have you locked the doors of the bank for two days, contrary to all precedent, excluding the clerks, the public, and the officers of government? Why have you contumaciously refused admittance to the imperial functionaries, rendering it necessary to'—

'General,' interrupted I, losing patience, 'it is to yourself that I have a right to look for explanations. Why did you send midnight emissaries to arrest a British subject, guiltless of any act against your laws, in his bed? Why seize our property? Why affix your seals to all our effects? Why extort my parole not to quit the place? Why'—

Here I, too, was cut short. General Annenkoff's face had, while I spoke, presented a curious sight, fury evidently giving place to compassion, as the idea that I was insane seemed to occur at once to himself and his companions, one or two of whom exchanged glances with each other, and tapped their foreheads significantly. At that instant, an officer rushed up from below.

'Excellency,' he breathlessly exclaimed, 'the birds have flown. The Château Plaskzi was found deserted by all but one or two old and stupid serving-women, who could or would tell nothing. The police have come back empty-handed. And a strong party of armed rebels, escorting two laden wagons, have forced their way through a picket of the imperial light horse, many of whom were wounded or dismounted at the first fire, and have disappeared in the forests of Kerznagy, taking a southerly course, as if towards Kalisch. A sergeant of Gruchow's Cossacks has brought the news. He distinctly saw both Otho Jablinski and his uncle, with some ladies, who rode in the centre of the party. No doubt, the suspected persons were apprised of our intentions, and'—

'And we need not search far for the serviceable friend who played the spy on their account,' broke in the governor with a withering glance at me. 'I begin to see daylight in this business.'

So saying, he directed two grenadiers to place themselves, one on my right, and the other on my left, and to 'bring me along,' and keep their bayonets ready to stab me in case of any effort to escape. Then General Annenkoff went down stairs, accompanied by his staff, and followed by the soldiers, the smiths, and myself, walking mechanically between my grim guards, who eyed my every movement, as if to see if the moment had arrived for complying with the last clause of their general's directions. The seals on the doors were examined, and pronounced genuine, and for

an instant the governor himself seemed staggered by the neat regularity with which the emblems of authority had been affixed.

'This is no madman's work,' said the *greffier* of the tribunal, who had joined the group; 'the seal is either authentic, or the imitation a most adroit one. However, one thing I can vouch for—the government signet has never left the Residence.'

'Break the seals!' said the governor hoarsely; and without waiting for his orders to be obeyed, he tore away the wax with his own hands, and after vainly demanding the key of the strong room, bade the smiths force the door. This was a work of time. The door was of wrought iron, and it was long before the groaning hinges gave way. There was an immediate rush into the room, and a loud cry of surprise. Not a book, not a paper, was displaced. The cash and securities belonging to the bank, or to private depositors, lay untouched, though every safe and chest had been opened. One safe alone stood gaping and empty, that which had contained the government money recently collected by taxation. And on the table in the middle of the room lay a broad piece of vellum, sealed with a quasi-official seal of green wax, and fairly written over in the French and Polish languages. It was a receipt from the National Government of Poland for three hundred, eleven thousand, and fifty-three roubles.

The mystery was solved at last. The whole scheme had been artfully concerted by the agents of the gigantic national conspiracy, or *soi-disant* 'government,' and I had been their dupe. The police who took possession of the bank and the property it contained were but disguised conspirators, who adopted the garb and bearing of Russian functionaries to avert from my mind any suspicion of their real character. Foremost in this plot had been the Plaskzi family, into whose hands I had played most unwittingly; for it turned out that Major Armand, to all appearance a man indifferent to politics, was really one of the chiefs of sections in the national *Vehmgericht*, which we call the Central Committee, while Otho was one of its boldest agents. Rosalie had been employed to draw from me the information as to the exact period when the treasure would be carried off to the fortress of Modlin, on which the plotters acted; and I afterwards learned that during my conversation with her, Otho had actually been concealed behind the tapestry of the yellow saloon, and had heard the announcement of the governor's design from my own lips.

I was lodged in prison, and under cloud of night was removed, heavily ironed, to Modlin, where I remained for three months in a captivity that was dreary and wretched enough, being denied the use of writing materials, or any communication with the outer world. At the end of that time I was sent to Warsaw; and after some long and severe examinations, was fortunate enough to persuade the authorities that I had taken no wilful share in what had been done at Plock. What had tended to rouse suspicion against me was the fact, that the Major had been permitted to raise cash to the full value of his estate from the bank, thus virtually securing the purchase-money, while he preserved the land from confiscation; and this, with my intimacy at Plaskzi, and my submission to the mock-arrest, had caused the local government to regard me as an accomplice of the Polish conspirators.

I was liberated, but with a polite intimation that

I had better leave Poland at once; and with this hint I thought it prudent to comply. Years afterwards, in the course of a holiday scamper through Italy, I met some old friends at Naples, who invited me to dine with them on the following day, to meet some delightful acquaintances of theirs, whose praises they could scarcely sing with sufficient emphasis.

'To what favoured nation,' asked I, 'may these phoenixes belong?'

'They are Poles,' was the answer: 'a delightful old Major; his invalid niece, who plays so sweetly on the harp; and a married niece and nephew, Monsieur and Madame Otho Jablin'—

I did not wait for the conclusion of the sentence; and whether my friends thought me crazed, or merely rude, I have not the slightest idea, for I left the house at once, and Naples on the following day, and have never seen them since. The recollections of the Land Bank of Plock were rather too much for me.

THE MONTH:

SCIENCE AND ARTS.

THE Meteorological Department of the Board of Trade—the Weather Office, as it might be called—is one in which the public take interest, for it sends out the storm-warnings which have already proved so beneficial all round our coasts. We hear that these warnings are to be continued; and that the late Admiral FitzRoy's successor, whoever he may happen to be, will be required to use diligence in the collection of meteorological observations from all parts of the ocean, with a view to obtain more data. Should this be properly carried out, valuable results may be hoped for, of which an indication may be found in the writings of Dove and others, who, in their collation of weather-phenomena, gather their facts from the largest possible area.

It is also in contemplation to establish a Compass Department, which shall do the same duty for the mercantile marine under the Board of Trade as it does for the royal navy under the Admiralty. Something of the kind is much wanted, for every year more and more ships are built of iron, and more and more compasses are thereby disturbed, with risk to all concerned. Many ships are lost every year for no other reason than that builders, captains, and owners are not acquainted with the disturbing effect on the compass of large masses of iron, nor with the best mode of correcting such disturbance. And what makes the matter worse is, that they do not know their ignorance, for they trust to a few empirical rules, fancying them to be genuine scientific knowledge. But, as has been ably shewn by the superintendent of the Compass Department of the Admiralty, it is now easy to calculate the effect of the iron on the compass, to compensate the error, and to shew how the compass may be kept in true working-order, even in the heaviest iron-clad. Such being the case, there seems every reason to require that the iron portion of the mercantile navy should be placed under government superintendence; for if navigation can be rendered safer than it is by authority of the Board of Trade, the sooner that authority is exercised the better.

In a paper read before the Statistical Society, Mr W. L. Sargent points out the inconsistencies of

the census of 1861 with the Reports of the Registrar-general, and shews that deficiencies exist in the local registry of births. It appears from his statements that the registration is worst, that is, most imperfect, at Liverpool and Hull; with London, Cheltenham, Plymouth, and Portsmouth following in order of demerit; that as regards the number of the population, the census is not to be trusted, and that the males and females together of all ages are probably underrated by more than half a million. Those who are interested in the subject will do well to read for themselves the paper published by the Statistical Society, in which the whole question is argued, and the source and occasion of error are set forth. We have been so much accustomed to trust implicitly to the census returns, that perhaps we the more need a little fair discussion concerning them.

The Director of the Observatory at Glasgow states in his annual report, that ten miles of telegraph wire are now erected within the boundaries of Glasgow for the control of public clocks by electricity. Besides connecting the several churches, the wire extends for some miles down each bank of the Clyde, and will probably, in course of time, be stretched onwards as far as Greenock, where it would make known the true time to outward-bound shipping. With regard to the meteorological observations which are regularly taken at the Observatory, the Director reports that they have contributed towards a better knowledge of the climate around Glasgow, and have been found serviceable in other ways. 'In connection,' he says, 'with questions under litigation, letters are frequently addressed to the Observatory requesting information respecting the amount of rainfall, the force and direction of the wind, or the state of the weather in general, on some particular day; and it is well known that evidence of this kind, derived from the records of the Observatory, has recently exercised an important influence on more than one legal decision.'

The President of the Canadian Institute, in his anniversary address delivered at Toronto, mentioned a few particulars which deserve attention. Besides the sums voted for the endowment and support of colleges and grammar-schools, the Canadian parliament granted last year three hundred thousand dollars for educational purposes, and as this was supplemented by local and self-imposed taxes for the same object to an amount five times greater, it follows that a million and a half of dollars were expended for education in 1864, in the two provinces. This is a sign that one at least of the essential elements of advancement is not neglected by our cousins in Canada. Concerning other elements, the President tells us that the provinces of the proposed confederation have thirteen million acres of cultivated lands, thirty million of uncultivated in the hands of private owners, and many millions more belonging to the government—that the annual export of fish will be ten million dollars' worth, the produce of fields and gardens one hundred and fifty million, and that the assessed value of the farms is five hundred million dollars. Besides all this, there is the great Northwest Territory, rich in vast prairies, in gold, iron, coal, and salt, and comprising an area larger than the whole of Canada; and across this territory lies the shortest and cheapest route for the great railway that will one day connect the Atlantic and the Pacific.

It has been frequently remarked of late that most of our large cities and towns, and some of the small ones too, have entered on a transition period. Hundreds of houses are pulled down to make room for railways; ground becomes more valuable, and to economise the space, houses and warehouses must be built taller than ever. That London would be greatly improved in appearance by increase of height, is obvious to any one who will travel on the top of an omnibus along Fleet Street, the Strand, and some other principal thoroughfares, and note how small and mean the houses are above the shop-fronts. In this particular, the great metropolis might learn a lesson from some of the towns and cities north of Humber and Tweed. But increase of height involves increase of labour and fatigue in ascending stairs. To meet this objection, the hydraulic-lift has been invented; has been used, as many readers are aware, for some years past in factories and warehouses; and now we hear, from many quarters, of a hydraulic-lift for domestic purposes. Mr J. Whichcord read a paper on the subject before the Institute of British Architects, pointing out its growing importance, and describing the mode of operation. Much going up stairs is said to be injurious to health, and if houses are to be built taller, the greater will be the harmful effect. But with a lift, injury may be avoided, and labour saved. You turn a tap, and by that simple movement are lifted from floor to floor, with baskets of linen, full coal-scuttles, heavy trunks, anything, in fact, without fatigue. There is no pulling and hauling; turn the tap, and the pressure of water does all the work. To maintain the pressure, there must be a cistern constantly full at the very top of the house. To insure this, there must, of course, be a good water-supply with power to force to any height, as in Newcastle-on-Tyne and some other towns. But in this respect London is ill provided: the supply of water is always too small, and only by special arrangements can it be forced to the top of a high house.

Mr Whichcord states that he has erected five lifts in the new hotel just built at Brighton: one for passengers; one for coal, luggage, and so forth; one for wine, from the cellar to the bar; and two others for the supplies of food. The cistern is at the top of a tower one hundred and twenty-four feet above the basement. The cost of the water for the first million gallons is to be one shilling for a thousand gallons, and afterwards, sixpence a thousand. Each journey of the passenger-lift from the bottom to the top of the house will, it is said, cost one-tenth of a penny.

A paper on the Festiniog Railway, read at the Institution of Civil Engineers by Captain Tyler, may perhaps prove suggestive to those enterprising individuals who are seeking to develop passenger-traffic everywhere. The railway above named was constructed in 1832, for the conveyance of slates from the quarries on a mountain-side down to Portmadoc—a distance of thirteen miles—the terminus at the quarries being seven hundred feet above the port. The trains, of fifty trucks laden with slates, ran down the hill by their own gravity, and were drawn up empty, or filled with goods and materials, by horses, until 1863, when four locomotives were designed, and put upon the line to supersede the horses. Up to February of the present year, these four engines had run fifty-seven thousand miles without once starting from the rails, although the gauge is not more than two

feet; and we are informed that they actually conveyed daily, on the up-journey, an average of fifty tons of goods and one hundred passengers, besides parcels, while the daily delivery of slates at the port is two hundred and sixty tons. As formerly, the trains run down by themselves: first the trucks of slates, with empty goods-trucks, followed by the locomotive, and that by the passenger-carriages. With so narrow a gauge, it is important to keep the weight from overhanging the rails; and the passenger-carriages are constructed with a central partition running from end to end, against which the passengers—ten to each carriage—sit back to back, as in an Irish car. The floor of the carriage being not more than nine inches above the rails, no platforms are required.

With a narrow gauge such as here described, the cost for land, for rails, ballast, and other materials, is of course much less than on ordinary railways. Originally, this Festiniog line cost about two thousand pounds a mile; and there are many parts of the kingdom where railways constructed at that price would be profitable. At present, it is illegal to lay down a passenger-railway on a narrower gauge than four feet eight and a half inches, but as passenger-traffic takes place on the Festiniog railway of two feet gauge, the illegality may perhaps be overcome. On this point, however, we have no information. In Norway, there are fifty-four miles of railway at work with a gauge of three feet six inches, and as many more are in course of construction. So with these data to work upon, it is possible we may see minor railways carried into districts where they would prove very beneficial.

Mr P. W. Barlow, whose name is well known among civil engineers, shews that employment of locomotives on metropolitan railways, where stoppages occur every two or three minutes, is a mistake. Where stations are frequent, four-fifths of the power employed is expended in overcoming the *vis inertia* of the train. Engines which on a country railway would travel forty miles an hour, run twelve miles an hour only on a metropolitan line. Hence we see that heavy weight, large size, and great power are required to set the train in motion, after each of its many stoppages, occasioning a constant loss to the railway company. But, according to Mr Barlow, this loss may be prevented by the use of stationary engines—power without the drag of weight. If these are placed at suitable distances apart, and the trains are moved by a rope, as used to be the practice, but with too long a stretch, on the Blackwall Railway, a greater speed can be obtained at much less cost than with locomotives. If Mr Barlow will develop his ideas in a practical form, he may do good service at the present time, when London is being more and more penetrated by railways both under ground and over ground.

Among recent inventions, Mr S. Bourne's flexible diaphragm for preserving liquids in casks or other vessels from the effects of the atmosphere, is worth notice. The diaphragm is fitted midway inside the cask, and when the latter is quite full, adapts itself to the form of the upper half. As the liquid is drawn off, the diaphragm falls, and rests on the surface, and so completely excludes the air, that the wine or beer, or whatever liquid may be in the cask, is kept in a brisk condition to the last half-pint. This is an advantage that will be appreciated by housekeepers, whose cask of beer so often becomes flat soon after tapping.

RESIGNED.

WHEN my weary spinning's done,
And the shades of eve grow deep,
And by the bright hearthstone
The old folk sit asleep;
My heart and I in secret talk, when none can see me weep.

Ofttimes the driving rain,
And sometimes the silent snow,
Beat on the window-pane,
And mingle sad and low
With the hopes and fears, the smiles and tears of a time long, long ago;

Till they act the tales they tell,
And a step is on the floor,
And a voice I once loved well
Says: 'Open me the door.'
Then I turn with a chill from the mocking wind,
Which whispers 'Nevermore!'

To the little whitewashed room
In which my days are spent;
And, journeying towards the tomb,
My companions gray and bent,
Who haply deem their grandchild's life not joyous,
But content.

Ah me! for the suns not set,
For the years not yet begun,
For the days not numbered yet,
And the work that must be done,
Before the desert path is crossed, and the weary web
is spun!

Like a beacon in the night,
I see my first gray hair;
And I scarce can tell aright
If it is from age or care,
For Time glides silent o'er my life, and leaves no landmark there.

But perchance 'tis for the best,
And I must harder strive,
If life is little blest,
Then not for life to live,
For though a heart has nought to take, it may have much to give.

And they are old and poor,
And bread is hard to win,
And a guest is at the door
Who soon must enter in,
And to keep his shadow from their hearth, I daily
toil and spin.

My sorrow is their gain,
And I shew not by a tear
How my solitude and pain
Have bought their comfort dear,
For the storm which wrecked my life's best hope has
left me stranded here.

But I hear the neighbours say,
That the hour-glass runs too fast,
And I know that in that glad day,
When toil and sorrow are past,
The false and true shall receive their due, and hearts
cease aching at last.

Next Week will appear the first portion of an
original Romance, entitled

THE CLYFFARDS OF CLYFFE,

By the Author of *Lost Sir Massingberd*, &c.

To be continued weekly.

Printed and Published by W. & R. Chambers, 47 Paternoster Row, LONDON, and 339 High Street, EDINBURGH.
Also sold by all Booksellers.